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ABSTRACT

This study develops a framework for transformational change in institutions of higher education that is both theoretically and empirically grounded and is context based. It reports on six ethnographic case studies of six institutions over a four year period. The six institutions in the study and their change initiatives included one research university (reconceptualizing the goals of general education and faculty roles); three doctoral-granting universities (changing faculty roles and rewards, creating a more rigorous academic environment, and integrating technology into the teaching and learning process); a liberal arts college (creating a campus community grounded in civic responsibility); and a community college (becoming more student centered). Qualitative research techniques were used including interviews, participant observation, site visits, and document analysis. The key findings included: identification of five core strategies for transformational change, all of which facilitated organizational sensemaking; (2) the important inter-relationship among core and secondary strategies and the non-linear change process; (3) the need for balance among strategies; (4) the importance of social cognition models for future studies of transformational change; and (5) the efficacy of combining multiple conceptual models. An appendix provides definitions of core and sub strategies. (Contains 60 references.) (Author/DB)

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Examining the Institutional Transformation Process: The Importance of Sensemaking and Inter-related Strategies

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Abstract

Examining the Institutional Transformation Process: The Importance of Sensemaking and Inter-related Strategies

This study develops a transformational change framework that is theoretically and empirically grounded and is context based through ethnographic case studies of six institutions over a four year period. The key findings include: 1) five core strategies for transformational change and the characteristic that makes them the essential, sensemaking; 2) the inter-relationship among core and secondary strategies and the non-linear process of change; 3) the need for balance among strategies; 4) the importance of social cognition models for future studies of transformational change; and 5) the efficacy of combining multiple conceptual models.

Examining the Institutional Transformation Process:

The Importance of Sensemaking and Inter-related Strategies

Financial pressure, growth in technology, changing faculty roles, public scrutiny, changing demographics, and competition in the world both within and beyond our national boarders make change an imperative for higher education. The type of changes institutions may have to initiate extend beyond adjustments and change through growth and accrual, so common in American higher education history, to transformation (Cameron & Tschirhart, 1992; Clark, 1995; Dill & Sporn, 1995). Today's changes necessitate a rethinking of academic leaders' assumptions of how colleges work. Yet, transformational change is unfamiliar to most higher education institutions; it (1) alters the culture of the institution by changing select underlying assumptions and institutional behaviors, processes, and products; (2) is deep and pervasive, affecting the whole institution; (3) is intentional; and (4) occurs over time (Eckel, Hill, & Green, 1998).

Institutional leaders and policymakers have neither the experience with institutional transformation nor a solid empirical literature base to draw upon. There is little meaningful data to advance an understanding of the process of large-scale or transformational change (notable exceptions include Lindquist, 1978; Sporn, 1999). The literature on change in higher education is informative about the content of change (see for example St. John, 1991; Gumport, 1993), what factors are related to the change outcomes (see El-Khawas, 1995), and the conditions related to change (see Hearn, 1996), but not the process. The extant change process literature is replete with problems. First, there is a lack of empirical data. Sometimes the broad strategies are grounded in research (Leslie & Fretwell, 1996), but predominately they are reflections of former college presidents (Guskin, 1996; Walker, 1979). Second, change strategies tend to be generalizations: such as a willing president or strong leadership; a motivating vision and mission; or aligning values and policies (Cowan, 1993; Kaiser & Kaiser, 1994; Roberts, Wergin, & Adam, 1993; Taylor & Koch, 1996). Suggestions such as "involve the faculty" and "improve

communication" provide little comfort to leaders faced with implementing deep and pervasive change. A third issue is that much of the literature presents change strategies as isolated, distinct actions, and does not present strategies as systemic, concurrent, and interdependent. Many researchers suggest that viewing organizational processes systemically is essential to improve administration (see for example, Birnbaum, 1991). Using theoretical or conceptual frameworks that show dynamic interactions can prove useful; yet, the literature on change in higher education typically is atheoretical. Although biological and teleological/scientific management theories of change—two frameworks with systemic elements—have been applied within other organizational settings, few researchers have applied these frameworks to college and university change processes, although exceptions do exist (see Cameron, 1991; Smith, 1993; Sporn, 1999). Lastly, higher education change research tends to be survey or interview studies, even though it is well acknowledged within other fields or disciplines such as business or sociology that the change process is better studied through more detailed qualitative methods such as ethnography and case study.

The purpose of this study is to develop a transformational change framework that is theoretically and empirically grounded and is context based, reaching beyond generalizations. The following research questions guide this inquiry: How do institutions affect transformational change? Are there core strategies for achieving transformation? What makes a strategy core? If core strategies exist, are they inter-related? How might these strategies suggest a framework for transformational change in higher education? In order to address these research questions, an ethnographic case study approach of 6 institutions undergoing transformational change was conducted over a four-year period.

LITERATURE REVIEW

Two different schools of research related to organizational change exist. Researchers in the first school, the content school, have focused on antecedents and consequences of change, typically utilizing large samples and statistical methods. In contrast, researchers in the second school, the process school, have focused on the role of actors in the change process. This study falls into the second school, focusing on how the process of a particular type of change occurs.

We first review the change process theory that framed the study—teleological or planned change. Second, we synthesize theoretical constructs from the higher education change literature related to this theoretical tradition. As noted in the introduction, it is important to provide a theoretical framework for studying transformational change since it has generally not been explored systematically in higher education. Six main categories of change process theories[1] exist throughout a multidisciplinary literature including biological, lifecycle, teleological, political, social cognition, and cultural (For detailed descriptions of these various theories please see: Burns, 1996; Collins, 1998; Levy & Merry, 1986; Morgan, 1986; Sporn, 1999; Van deVen & Poole, 1995).

Teleological models formed the main conceptual lens for this study. Teleological models include strategic planning, bureaucratic and scientific management, and organizational development. They assume organizations are purposeful and adaptive (Rajagalan & Spreitzer, 1996). Change processes tend to include planning, assessment, incentives and rewards, stakeholder analysis and engagement, scanning, strategy, restructuring, re-engineering, etc. Goal formation, implementation, evaluation, and modification based on experience is an on-going,

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[1]Model and theory are not necessarily interchangeable, although many scholars use them this way. Instead, a theory is a broader term suggested contemplation of reality or insight, whereas as model delineates a set of plans or procedures. Certain disciplines tend

intentional and directed process (Burns, 1996). These models tend to be rational and sequential; one strategy follows the next, in an ordered and deliberate fashion. Internal organizational features or decisions motivate change, e.g. new leadership or desire to innovate, rather than the external environment as reflected in biological models. Strategic choices and human creativity are highlighted (Brill & Worth, 1997). Leaders own, align, set expectation, model, communicate, engage, and reward; what they do effects the organization. The outcome of the change process is usually new structures or organizing principles. Within higher education management, teleological models, both explicitly and implicitly shape thinking and perceptions of organizational behavior, similar to other fields or disciplines. Its attraction seems to lie in the ability of institutional actors to influence and control (Burns, 1996). For example, some competing theories see change as mostly unplanned and externally motivated (biological theories) or as part of human development (lifecycle), not inciting to those in leadership positions.

Teleological models have been criticized for not describing the inter-relationship of strategies and for emphasizing linearity (e.g., (1) develop a vision, (2) make a plan, (3) have the president communicate the vision, (4) then get resources, etc.). In addition, they have been critiqued for emphasizing an overly rational process of change and over-emphasis on human agency and ability to control events. Although there have been numerous critiques of teleological models, their ability to describe and predict the change process have been demonstrated in many studies (Collins, 1998). Furthermore, these models have been praised for being readily usable by practitioners and creating practical findings, a complaint with other theoretical perspectives such as biological or political theories.

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to develop models of change, such as business or psychology, while other fields tend to discuss theories. We use the term theory

A few researchers suggest that to best understand how change occurs, several theories might be combined (Morgan, 1986; Rajagalan & Spreitzer, 1996; Van de Ven & Poole, 1995). Morgan (1986), for example, conjectures that biological, social cognition and political models combined would best explain change within organizations. Bolman and Deal (1991) describe the ways change can be conceptualized through the political, human resources, bureaucratic, and symbolic lens. We assumed that other theoretical frameworks might emerge as important, but chose to ground the study initially in a theoretical tradition that has proven to be empirically important, helpful for practitioners, and where there had been some change research to build from.

Because teleological models have been applied to the study of higher education change, there was a set of identified strategies that could be tested in relation to transformational change including: (1) a willing president or strong administrative leadership; (2) a collaborative process; (3) persuasive and effective communication; (4) a motivating vision and mission; (5) long-term orientation; (6) providing rewards; and (7) developing support structures (examples include, Cowan, 1993; Kaiser & Kaiser, 1994; Roberts, Wergin, & Adam, 1993; Taylor & Koch, 1996). Although these elements emerged in studies of other types of change, they might also be important to transformational change. The seven strategies are described in greater detail; they served as an initial template for data collection and analysis.

A willing president or strong administrative leadership refers to active participation by those with authority over budgets, personnel, and institutional priorities. It is well acknowledged in the literature on change that having support by the president and other individuals with positional power facilitates the change process occurring more quickly since they can secure

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generically within this paper.

human and financial and focus institutional priorities (Cowan, 1993; Fischer & Wheeler, 1988; Kerr & Gade, 1986; Lindquist, 1978; Lovett, 1993). Although grass roots change can occur, especially on campuses with strong faculty or student groups, these change efforts can be met with resistance if there is not buy in from those with positional power (Kerr, 1984). Even though colleges and universities have been described as organized anarchies (Cohen & March, 1986) where change can happen haphazardly (or often not at all), several studies have illustrated that change was facilitated through the support of individuals in positions of power (Birnbaum, 1992; Eckel, Hill, Green, & Mallon, 1999; Kerr, 1984).

Within the past ten years, a willing president or strong leadership seems to be waning in importance compared with organizing a collaborative process (Cowan, 1993; Curry, 1992; Bensimon & Neumann, 1993; Lindquist, 1978). Collaboration typically refers to involving stakeholders throughout the organization in the change process. Higher education has long had a collaborative decision-making structure, in particular, shared governance and committee structures. Yet the extent of collaboration varies. For example, sometimes collaboration entails vision setting, considered radical by many management consultants and institutional members. Other times collaboration means "merely" allowing people voice, but no real authority over direction, goals, or process. Although not clearly defined and inconsistent across institutions (Eckel, 1998), its impact appears to be significant; studies within the corporate environment have illustrated the importance of collaborative processes for commitment, empowerment, and engagement of individuals with thorough knowledge of the organization, and development of momentum (Gardenswartz & Rowe, 1994).

Persuasive and effective communication refers to the activity in which the change process is described and made understandable to employees (Eckel, Hill, Green, & Mallon, 1999;

Lindquist, 1978). An effective campus leader might write articles for newsletters, give speeches, holding town meetings, and send notes out over email. Developing a communication strategy fosters an understanding of change necessary for action. The benefits of communication include fostering buy in to facilitating collaborative leadership to developing relationships (Curry, 1992).

Probably the most commonly described process within change is a motivating vision and mission. It is also highly linked to other organizational activities such as planning, institutional communication, leadership, reward structures, and hiring processes. Vision and mission are mentioned as central to accomplishing these activities (Kaiser & Kaiser, 1994; Kerr, 1984; St. John, 1991). Change often invites risk and an uncertain future or destination, having a compelling reason for change and a proposed direction is crucial. A motivating vision or mission can become the blueprint and compass for many employees. This compass allows people to move toward something new and beneficial, not just unknown.

Another factor that is evident in the literature is that change, especially major change, is not likely to happen quickly; it takes time. Several problems related to not having a long term orientation have been connected to the failure of many change efforts, for example: 1) not providing incentives for the long-term effort; 2) not developing strategies to capture and hold attention through distractions; 3) not presenting the long term commitment to staff so they end up being disillusioned; or 4) turn over in leadership before the change effort takes root (Eckel, Hill, Green, & Mallon, 1999; Lindquist, 1978; Millar, 1993). The literature repeatedly reviews how institutions fail at change because they do not engage the process over the long-term (Ramaley, 1995).

Rewards or incentives are described in the literature as ways to encourage employees to channel efforts from existing activities to new or additional activities. The range of incentives

can vary from computer upgrades, summer salaries, merit increases, conference travel money, public recognition and awards (Eckel, Hill, Green, & Mallon, 1999; Roberts & others, 1993; Tierney & Rhoads, 1993). Although a motivating vision or mission provides people with a compelling reason to engage the change process, incentives can provide vehicles for continuing or enabling change. Enabling them to attend a conference on assessment might be the necessary incentive to have them be able to facilitate change (McMahon & Caret, 1997).

Developing support structures such as new centers or positions, re-aligning roles, re-allocation of resources, is central for sustaining and achieving change (Curry, 1992; Guskin, 1994; St. John, 1991). Developing these support structures allows for the necessary focus, effort and resources need to be committed (McMahon & Caret, 1997).

In summary, the change strategies examined from the literature tend to be presented as individual elements, occurring as part of a linear list of suggested actions to effect change. The importance of these strategies to transformational change and their relationships to one another remain unexplored.

RESEARCH DESIGN AND METHODOLOGY

This study is based on six institutions participating in the ACE Project on Leadership and Institutional Transformation, a five-and-a-half year initiative on institutional transformation funded by the W. K. Kellogg Foundation. The data reported was collected in years 1-4 and analyzed as part of the work of the Kellogg Forum on Higher Education Transformation. Qualitative research techniques were used including interviews, participant observation, site-visits, and document analysis.

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Sampling: Twenty-six institutions were selected to participate in the ACE project through a national competition from a pool of 110 applicants. The institutions were selected based upon the following criteria: 1) proposed change altered more than the structure of the institution, altering core values, underlying assumptions, behaviors, processes, and products; 2) was deep and pervasive —the set of changes impacted several groups, e.g., faculty, staff, or a large percentage of the community; 3) was intentional - there was clear articulation of the proposed change; and, 4) was long-term in orientation. Having a variety of institutional types was also important in order to determine how institutional context might impact the transformation change process since it has been associated with incremental change processes (Berquist, 1992; Levy & Merry, 1986). Thus, the sampling was also purposefully attempting to include multiple types of institutions (Yin, 1994).

A sub-set of six institutions making the most progress toward transformation was identified for this study from the ACE 23 who elected to continue into year 4 of the project. The criteria used to determine which institutions were making the most progress toward transformational change were: 1) met measurable goals; 2) illustrated change in values, underlying assumptions, behaviors, processes, products, and structure; 3) provided evidence of a change in institutional culture; and, 4) demonstrated mechanisms of sustainability, such as new positions or divisions, or the embeddedness of the changes. Although the initial 23 institutions had plans in place to make transformational change, only these six met these criteria and could be labeled as transforming institutions. These distinctive institutions provided important data for understanding what processes help promote transformation since all institutions had plans and a clear intent to effect transformation, but all did not make discernible progress toward their goals,

at least after four years. The change initiatives involved both faculty and staff, they were inclusive of the whole campus community.[2]

The six institutions in the study included one research university (reconceptualizing the goals of general education and faculty roles in its delivery), three doctoral-granting universities (changing faculty roles and rewards, creating a more rigorous academic environment, integrating technology into the teaching and learning process), a liberal arts college (creating a campus community grounded in civic responsibility), and a community college (becoming more student centered).

Data Collection and Analysis: In order to move beyond the broad generalizations in the literature based mostly on quantitative surveys, an ethnographic approach was adopted. Several different data collection techniques were used in order to obtain detailed data and different perspectives. Participant-observers from each institution provided data on a semesterly basis in response to open-ended questionnaires and at biannual project meetings. Outside research teams of experienced higher education consultants visited each campus twice a year for the first three years and one time during the fourth year. These research teams conducted interviews, observed meetings, went to campus events, and conducted informal observation. In addition, research teams interviewed key individuals among the administration, faculty, staff and students. Although the literature suggested some areas for investigation, since there are few studies of transformational change, we wanted to allow themes to emerge and began with broad questions included: Do you think transformational change is occurring? What are the roles of leaders?

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[2] It should also be noted that the literature about the content of change suggests this might affect the change process (see St. John, 1991 and Gumport, 1992). Yet, the content of change argument is tied to the level of change required of the institution, i.e., impacts division, school, whole college; or impacts structure, culture or both. Since all of these institutions are undergoing similar levels of change – transformational change – the content of change is held constant.

What evidence can you provide? What are the most successful approaches to creating change on campus? Why were these approaches so successful? Have your approaches changed over time? What strategies failed and why? Who were the most involved individuals? In the later interviews, more targeted questions more specific to the change process at the institution concerning communication strategies, the external environment, planning, and, relationship among strategies or institutional culture were explored.

Researchers additionally collected and analyzed internal institutional documents. The seven strategies served as an initial set of areas for collecting data related to the change process across all the types of data. External forces were also specifically examined as well as the outcomes of their efforts[3] All of these sources of data were put into written form including observations from research teams, participant observer's commentary, and interview transcriptions. Each of these sources of data was analyzed first individually and then combined with other data sources, exploring themes and using the multiple sources of data to triangulate themes.

Data analysis was conducted through three different approaches: 1) categorical analysis; 2) memoing; and, 3) narrative analysis. Categorical analysis was used to identify change strategies, beginning with those described in literature review (Miles & Huberman, 1994). Emergent themes were identified and negotiated between the two reviewers. An example of a theme that emerged was the notion of balance. Both reviewers identified this theme independently; then, analysis of this theme was compared. Themes were often discussed with

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[3] Although outside forces play a role in change, they are not a significant focus within process change frameworks that tend to examine internal organizational strategies as noted earlier in the discussion of teleological models. However, external processes/strategies were not ignored based on authors' conceptual grounding in biological models of change; emergent themes in this area were pursued.

the site visit teams or members of the ampuses for further elaboration and exploration. Second, memoing, a process of writing up ideas of the pattern coded data, helped to identify interrelationship among themes (Miles & Huberman, 1994).

Lastly, the themes were illuminated through narrative analysis. Stories of change were developed from the rich ethnographic data collected through the multiple sources. The data presented in the results section are shorter versions of the narratives that were developed. The narratives integrate disparate data into a whole, more accurately representing how change occurs (rather than listing separate unrelated processes). The researchers were careful not to force relationships. This analysis technique helped illustrate the contextual issues critical to change and the interrelatedness of the identified themes (Reissman, 1993). Analysis was conducted of all six cases. After thorough review of the data, case studies of two of the institutions were drafted (because of space constraints) to illustrate the themes typical to all six institutions.

Limitations: First, because institutions self-selected to be part of the larger project from which this sub-sample was taken, they may not represent the range of institutions undergoing transformational change. Second, since much of the data is self-reported it may be biased to reflect success. Third, institutional change initiatives are incomplete after four years making it difficult to determine success of the change initiatives. Fourth, participation in the national project may have some effect on the institutions in the study.

RESULTS

This section briefly outlines the results identified across the six cases. Two cases are then presented that showcase the findings. First, five core strategies common across institutions were identified: senior administrative support, collaborative leadership, robust design, staff

development, and visible action (See Appendix 1 for definitions). Core strategies were identified both from the campuses' perceptions about what helped them to move forward, as well as researchers' perceptions from the site visits and the review of documents. All the institutions that made substantial progress toward change had these five conditions/strategies in place. Which strategy played a more central role, depended upon the campus context, institutional type, and culture. What made these five strategies so powerful, was their ability to help individuals conceptualize a new identity, to feel worthwhile about their efforts, and to be brought along with the institutional agenda—what is labeled sensemaking and described next.

Related closely to the first finding was the second main theme: sensemaking emerged as a super-ordinate strategy or an element of four of the five core strategies. The core strategies provided opportunities for institutional participants to make new meaning -- to help members of the institution change the way they perceive their roles, skills, and approaches/philosophies. In periods of change, new cognitive frameworks or mental models (Senge, 1992) are introduced, explored, modified and adopted. A central component of transformation that emerged across these cases is providing vehicles for people to alter their mental models leading to a different set of meanings and activities for the new realities of the changing institution.

Third, the five core strategies are linked to one another and to a set of secondary strategies and occur bundled together. Appendix 1 provides definitions of these secondary strategies and Appendix 2 demonstrates the inter-relatedness of core and secondary strategies. Strategies occurred simultaneously or in clusters rather than sequentially, as presented in the higher education change literature. Balance among strategies is an important principle in transformational change and also linked to the inter-dependence of strategies. The six institutions in this study struck numerous balances as they progressed. For example, in

developing the agenda, balancing inside and outside perspectives was critical. When developing change strategies balancing between a cultural and structural approach was necessary. Balance suggests that the plan or design should moderate pace; moving too fast will create disequilibrium. What elements and strategies specifically need to be balanced and the ways in which balance occurs are defined within each organization as dictated by institutional type, culture and context.

The next section presents two illustrative cases, depicting the change process at a community college and at an urban, private research university. Although this study focuses on the change process, evidence about the degree of transformational change is presented so that the reader has a sense of the changes that have occurred.

Sunshine Community College

Sunshine's initiative focused on moving the community college from an institution focused on teaching to one focused on learning. Sunshine is a different campus from five years ago. Faculty evaluation is now tied to illustrating evidence of learning through assessment rather than just focused on showing evidence of the teaching process. Retention rates have gone up 20%, surpassing their initial retention goal. Key campus documents have been changed to focus on teaching. Perhaps most important, faculty, staff and administrators no longer discuss teaching, but focus discussions on learning and student development. Site visits illustrated a change in language and assumptions over time, leading to a change in behaviors. Behaviors range from the change in assessment practices to new teaching techniques to involvement in professional development. The many professional development opportunities and the evaluation procedures represent new processes and mechanisms of sustainability.

Sunshine formulated the change agenda after prolonged discussions about the need for change. An external factor influencing the need for change was the state imposed use of performance indicators. At the same time, many faculty were concerned that "students just weren't getting where we wanted them to get." Close to ninety percent of new students required remediation. One administrator noted that "a lot of students were being lost who we felt didn't have to be lost if we could just focus more directly on learning and how people learn."

Sunshine is a multi-campus institution serving 60,000 students. Communication across geographic distances, across departments, and between and among faculty, administrators, and community stakeholders is difficult. Developing a shared understanding is tenuous and a coordinated effort trying. The institution began its change effort by establishing a planning team of faculty leaders and senior administrators, and charged it with developing a process for buy-in and communication; this group decided to hire external consultants and read the "change" literature from business and education to inform the process they were going to develop. In their final report, the campus noted that: these activities "allowed the team to take on the role of students by learning more about their own institution, listening to outside impartial experts, and listening and learning from each other." After developing a common language through reading and listening to outside consultants, the leadership team crafted a unifying change agenda. A number of change efforts were presently underway at the college. Some were isolated to a single department or campus. Others were college wide. "One of our key tasks was to step back and take a look at the larger picture and the way in which they could leverage change by tying efforts together," wrote the team in one of its reports.

The leadership team developed a three-year plan, some of which evolved over the course of its work (these evolutions are noted below by the notation "added later by campus leaders").

The activities included holding structured dialogues, developing consensus on a college wide vision, gathering baseline data and assessing core processes, understanding organizational culture, forming teams to work on specific issues and to identify cross-institutional activities, training faculty and staff and developing their leadership skills (added later by campus leaders), designing and implementing improved communications and decision-making processes (added later by campus leaders); and, designing mechanisms to evaluate progress. The team started with a rationalistic, managerial, and structural emphasis and, over time adopted a more developmental and values-oriented approach. Evidence of the more managerial, rationalist approach was the emphasis on team vision setting and developing evaluation mechanisms. But, later change leaders noted they learned the importance of training, of symbolic acts like speeches or events related to the new initiative, and of reinforcing values through discussion and dialogue. Their plans and strategies evolved since the leadership team sought feedback throughout the process.

To get feedback from the campus community and to communicate what they had learned, the leadership team organized a set of 12 roundtable conversations. Every faculty and staff member received an invitation to the roundtables. Approximately 300 faculty and staff, including nearly every full-time faculty member, attended one of the roundtables. These conversations focused on what it would mean for Sunshine to be a learning-centered college and to make recommendations for changes in order to accomplish that vision. Leadership team members facilitated the roundtables where they described the external forces impacting the campus and why change was necessary. Comments from the roundtables were compiled and circulated college-wide and all faculty and staff were invited to comment. New insights were incorporated into a document reflecting the conversations and circulated college-wide. Based on the document, the leadership team developed a draft definition of a learning-centered community

college. They decided to keep the statement as a perpetual draft to be revised as collective thinking evolves.

Senior administrators gave strong support. For example, the President constantly articulated the importance of the change initiative and took a lead role in writing to all the members of the college community about the change project. He also facilitated some of the roundtables, was an active participant in the leadership team meetings, and provided financial resources. One faculty member noted: "Without the resources and commitment of the senior administration, from the president down, things would be the same as they had always been." Additionally, the President provided resources for one key recommendation from the roundtables — to create a new position, Vice President for Institutional Transformation, to provide resources and focus for the change initiative.

Campus leaders realized early in the process the importance of validation. Many faculty and administrators believed they were already doing well and recognizing this fact made people feel worthwhile during the change process. The President noted:

> We have learned that educators will fear change less if we focus first on what we want to preserve. We should not throw out the baby with the bath water and abandon the higher calling that we, as educators, share. By articulating our core values and our core purposes, as well as acknowledging that these are enduring aspects of the college, change becomes less frightening since it represents an effort to better serve that which we hold most dear.

This realization led to the development of a "vision and organizational character action team." With the assumption that any significant change at the college should be rooted in commonly held core values, the team administered an organizational character index to determine perceptions of the institution's character. This process involves various divisions filling out a detailed survey instrument. Depending upon how the college perceives itself, transformation

may require different types of support and leadership. Sunshine used this information to design appropriate change strategies and thereby to improve the prospect for success.

Following the roundtables, two-and-one-half day Transformation Workshops were held with 170 persons in attendance to generate a common understanding of the change process, to review the findings of the 12 roundtables held during the summer, to widen the circle of involvement, and to make recommendations about how best to move forward. Following the workshops, a call for volunteers was sent college-wide, and over 180 persons volunteered to serve on a set of "action teams." The leadership team created several other opportunities for involvement. As one faculty member noted:

> It is no longer a surprise to be asked to participate in a collaborative effort. Making people feel part of the process is important. Another thing we did right was sharing articles and discussing, this helps prepare people for possible future involvement.

A symbolic step to improve involvement was to use the word "draft" frequently. One administrator said, "We learned to put the word DRAFT in big letters at the top of everything. If you don't do anything else, do that. People don't want to think it's over and done with before they've had a chance to be heard."

Through the intensified conversation and widespread involvement those leading the change efforts and others involved realized that different sub-groups viewed the campus and its work differently. Leaders realized that until people began to appreciate these differences progress would be stalled. Leaders intentionally surfaced troubled relationships. They provided forums for faculty and administrators discussed stereotypes they held of each other; faculty in vocational and liberal arts areas examined points of contentiousness; issues of lack of trust and lack of commonality were openly discussed. These dialogues surfaced basic assumptions and deeply held philosophies. These conversations resulted in painful but useful clarifying debates

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about common purposes, particularly about "why should we serve business and industry as the college is a learning institution."

At this point, people noticed the institution was engaged in a lot of talk that resulted in little action. One administrator noted,

> After about a year of reflection, roundtables and opportunities to talk about what a learning-centered institution would look like, we were still talking. And one of the things we learned then very rapidly was that we needed to make a way for action to take place. So we formed a short-term action team. And those people who were ready to roll and wanted to do "something-anything-now" were invited to participate in that. We did find that there were a number of suggestions that came out of our many roundtables that didn't require six years to accomplish and gave people a sense that something was happening. Make sure that you give some means for some kind of short-term action so that people can see some progress.

One short-term outcome was a 20% increase in graduation/completion rates. This generated substantial momentum for people on campus to keep focused on the change initiative.

Sunshine was poised to act, having taken time to develop a common understanding and vision of what learning-centered means for the college. One step was the development of a leadership institute, an effort that provides on-going professional development opportunities for all employees; the content was shaped by the work of the action teams and the roundtables. After the first three years over 1,237 faculty and staff have participated and benefited from 123 courses offered. The college purchased and renovated a house into a small conference facility used exclusively for the leadership courses. One specific set of workshops focused on personal and organizational change. The Discipline Enrichment Series which helps faculty to collaboratively enhance learning in that discipline, i.e. English, has been extremely successful.

Lastly, campus leaders learned not to assume automatic buy-in and trust, but that they need to be continually reinforced. As one member of the leadership team said, "we really had to learn the hard way that no one was trying to push anything on anyone. There was no hidden agenda. That is something we have to continually work at." Campus leaders learned that

continual openness and working to help people to be part of the change process was critical and that change just takes longer for some people.

Metropolitan University

Metropolitan University (Metro), a private, urban research university, is revising its curriculum to achieve the learning objectives common to general education through the major. The initiative's goal is to provide students with a more coherent education. Through this initiative, known as the Common Academic Charter (CAC), faculty across the colleges are crafting general education outcomes that are connected to all curricular components, e.g., liberal arts courses, disciplinary courses and non-course experiences modules. Metro met several of its goals including a new curriculum, evidence of greater coherence through student and faculty evaluation, and involvement of over 75% of the faculty. The change in values and underlying assumptions is clear from talking with students; they no longer perceive their general education courses as a "mishmash" of unrelated experiences and instead reflect that learning objectives are clear. Faculty and administrators describe learning objectives, rather than content areas as the focus of the undergraduate experience. Behavioral changes include more experiential learning opportunities, regular working groups across schools and departments, on-going communication across units, and enhanced student outcomes. Some of the main sustainability mechanisms include a newsletter, new committees, speakers series on learning objectives, and new unit on experiential learning.

The pressure for change came internally from faculty who recognized that the current structure of general education was simply not working and externally from an accreditation review that cited the institution for its lack of common educational experiences. The

fragmentation in the curriculum was not surprising to campus administrators as it reflected the high degree of independence of Metro's colleges and departments. The institution describes itself as a series of loosely connected colleges and prided itself on their autonomy. It was rare for anyone beyond top administrative leaders to take responsibility for the institution as a whole. The president and provost, because of the decentralized nature of the institution, intentionally created processes and procedures to steer the institution as a whole, because faculty leaders were more concerned about the direction and activities of their own individual colleges. An earlier attempt to create a university-wide core curriculum failed in part because, according to some, the professional programs resisted adding new required courses to already highly structured curricula.

At the same time as receiving the poor accreditation report highlighting the curricular problem, the institution faced a 30% drop in enrollment that, in turn, created financial hard times for the tuition-driven institution. Additionally, the institution recently was reclassified from a Doctoral II to a Research II institution in the former Carnegie classification system, jumping two categories. The impact, as one person noted was, "while research and teaching is not an either/or proposition, the desire for upward mobility in the research world often finds institutions sending conflicting messages about its core values." These were the challenges facing a new president and provost.

The central administration, primarily the provost, was instrumental, crafting a process to implement the CAC based on the premise that the campus community had to identify its own educational goals. This assumption was central to gain support for an initiative that was an extreme departure from the traditional general education curricula. They formed an institution-wide committee of faculty, administrators and students to develop a common set of

undergraduate experiences regardless of discipline. This task force developed a newsletter to convey its ideas and continuously sought feedback and input from the campus over the course of their efforts. Identifying common goals took 18 months, from October 1992 and June 1994. The second component of the change process, which ran concurrently to the first, was to design the implementation mechanism. Campus leaders noted their challenge was to "devise a mechanism for general education that respected the university's culture." A central principle was community involvement, not only in developing the shared goals, but also in designing their implementation mechanism.

Once the goals and the processes were developed, the administrators' moved to gain the approval of Metro's various governing bodies. The CAC gained approval by the faculty senate, the faculty in full, and the board of trustees when it became a component of the institution's strategic plan. Yet, the newsletters and earlier forums also served as means for gaining early legitimacy for the initiative. It was unanimously approved by the Deans Council and the Undergraduate Curriculum Committee. Even the student government, on its own initiative, passed a resolution supporting the newly articulated goals. At this point administrators believed they finally were ready to "begin" implementation. Metro's provost and vice provost decided to use pilot projects in three volunteer colleges: Business and Management, Allied Health, and Nursing. Next, administrators worked to implement the CAC across the remaining colleges. Senior administrators designed an implementation strategy with three simultaneous phases: First, each college was asked to (1) conduct an audit to determine the extent to which the identified CAC goals were already being met; (2) develop a detailed implementation plan that would result in "a redefinition of the curricula in light of the shared educational goals;" and (3) develop a process of periodic assessment, for which some colleges tapped accrediting bodies. Although

each college moved forward through its own process, the common goals of CAC overrode Metro's fragmentation while respecting the institution's culture of college autonomy.

To develop collaboration across units, institutional leaders "encouraged horizontal, interdisciplinary involvement around shared goals" and created cross-unit interest groups working on challenges such as writing competency within disciplines, information literacy, and experiential education, and around topics such as esthetics, the natural world, and ethics. These interest groups sponsored annual workshops. The leader of each interest group was provided with a small stipend to acknowledge the extra work. In addition to the interest groups, the institution developed a series of workshops and activities to support the implementation. For example, by October 1995 more than 150 faculty from the pilot colleges had participated in CAC workshops. Some of the activities included department retreats, and a series of symposiums featuring nationally prominent speakers on topics such as the future of undergraduate education, critical thinking, and technology in the classroom. Additionally, faculty were encouraged to attend related off-campus conferences. The interest groups and workshops allowed faculty from different units to discuss topics related to the CAC and have conversations about institutional goals and the processes. In one report administrators wrote:

> For the CAC to be successful, faculty within each unit must talk with each other about the curriculum. Some chairs and deans have used the implementation of CAC as a mechanism for beginning to talk about unit goals. As implementation has progressed, the CAC is being seen as part of a broader university-wide change to a more student-centered institution. This has been important because there are numerous initiatives underway at the university. To the extent that they are connected, the burden on faculty and administrators is less.

Senior leaders, in addition to creating the implementation structure, developed a competition with the units receiving between $10,000 and $20,000 for their CAC initiatives. As was noted in one report, "this [award] was large enough for most departments to be a valuable incentive." Additionally, the president, provost and vice provost seized all possible opportunities to talk

about CAC on- and off-campus where they stressed the significance of the CAC to institutional goals. Administrators also brought in external resources that at a time of tight budgets allowed the campus the needed flexibility. They secured a $250,000 implementation grant from FIPSE, a $200,000 institution-wide reform grant from NFS for developments in math, science, engineering and technology, and $150,000 from a private foundation to implement one of the pilot projects. In addition to outside money, they were able to get Science to highlight their efforts. One report noted: "All these funds and the publicity, while not large, provided external validation of our change initiative; this was especially important to the researchers on campus. These funds combined with internally available funds have provided the seeds to encourage change in the various units." The provost also hired an administrator to oversee the CAC implementation. Additionally, each of the colleges identified a CAC coordinator to lead implementation efforts for that college who received a stipend and met periodically with each other and the campus CAC director to discuss common issues related to implementation.

Finally, those responsible for implementing the CAC across campus developed an "intentional on-campus publicity campaign." They developed a CAC newsletter that included drafts of documents, requests for input, bibliographies of related publications (which were also put on reserve in the library), examples of courses that adopted CAC goals, and announcements of workshops and funding opportunities related to CAC. Regarding the implementation plan administrators wrote:

> Introduction of CAC throughout the undergraduate programs has occurred slowly and unevenly. Some of that was deliberate; a widening group of faculty and administrators must buy into the process and the desired outcomes if we are to actually transform undergraduate education. Some units, particularly in the professional colleges, saw the CAC as an opportunity to better meet the goals that they and their accreditors have for student education and they forged ahead. Other units hoped that the ACE would go away... Ideally, units will "own" this change; it will not be foisted on them. Thus, the balance between top-down pressure and bottom-up enthusiasm (or lack thereof) continues to be a strategic issue.

DISCUSSION

This study had four primary research questions centered on (1) identifying core strategies within the process of transformation, (2) examining inter-relationships among the strategies, (3) probing what made strategies core, and (4) investigating whether a framework for change within higher education can be developed and what might be some of the theoretical elements. These questions organize the discussion.

Core strategies

Teleological change theory suggests that there are sets of strategies that can be used to facilitate change; this study identified strategies that can be used by campuses to bring about transformational change. The core strategies are clearly exemplified in the two cases. At Sunshine senior administrative support resulted in financial resources for the initiative, incentives, several new structures to support the effort, the articulation of philosophy that values what the campus currently does well, which in turn, made people feel appreciated, and changes in the governance processes to ensure better decision making. At Metro, senior administrators, mostly the provost and associate provost, were responsible for launching the initiative and shepherding the early discussions that allowed the campus community to identify common educational goals. They sought outside funds at a time the institution could not internally reallocate monies, and they created a competition for substantial resources ($10,000- $20,000).

The president and other senior staff at Sunshine actively created an atmosphere of collaborative leadership. The leadership team, which itself was composed of individuals from across the institution, created avenues for involvement through workshops, symposiums and roundtables, open invitations throughout the process. All plans and ideas were drafts,

encouraging people to participate and influence the outcomes and process. The most telling illustration of collaborative leadership at Metro is the freedom central administrators gave to each unit to design their own curricular changes around agreed upon goals. Rather than dictate a centralized implementation formula, central administrators allowed each college to develop its own audit process to determine the extent to which it already met CAC objectives, develop its own implementation process, and craft its own system of assessment. The cross-functional interest groups also illustrate collaborative leadership; they allowed interested faculty to share similar concerns and engage in collective problem solving.

Having a direction to move toward and flexible plan was a central element to guide institutional actions at both campuses. The robust design at Sunshine emerged out of several prior years of campus-wide dialogue, which was refined by the leadership team (and outside consultants) and shared with the entire campus. The robust design created an orientation that the campus believed in and embraced, one that emerged out of the culture of the campus and that reflected institutional language and beliefs. At Metro, the robust design tapped into a widely shared belief that the curriculum was not delivering everything it should, that the lack of common educational objectives was leading to a negative impact on the institution's ability to provide a top quality educational experience. Finally, the design was drafted in such a manner that it would be acceptable to the different autonomous colleges. Departments could see that the CAC would allow them to further pursue their own educational goals, and meet the objectives of their specialized accrediting bodies.

At Sunshine, staff development was critical to fostering knowledge about being student centered as well as developing collaborative leadership. The Leadership Academy helped provide people with the leadership skills to more effectively communicate, make decision, and

provide input on the change initiative. Staff development provided participants with information and language to help bring about the desired changes. Metro provided numerous opportunities for faculty development. One example is the interest groups that explored specific topics related to implementing the CAC and provided opportunities for faculty responsible for implementing the initiative, to explore questions through engagement with colleagues and readings. Metro also provided faculty development opportunities through the nationally prominent speakers it brought to campus and held symposiums and workshops or encouragement and support for interested faculty to attend national conferences.

Visible action was essential for Sunshine to maintain momentum. The 20% improvement in retention rates provided a sense of hope and accomplishment and demonstrated that the hard work was paying off. The shear participation numbers in the roundtables and at the Leadership Academy was also an important visible marker toward change. Much, if not all of the real work associated with implementing the CAC took place visibly. Faculty participated in visible discussion groups and attended campus-wide forums, newsletters detailed the work of various groups, and three colleges participated in visible pilot projects.

Inter-relationship of Strategies and Non-linear Process

The study revealed key relationships among core and secondary change strategies. Both of these cases highlight the connection and inter-relationship among strategies. Appendix 2 presents the linkages among change strategies that were identified among the six institutions. These linkages were common across all the institutions studied and suggest an overall pattern of the way various strategies are related and cluster. In addition to the strategies being linked or bundled together, strategies were enacted simultaneously. The linearity of most teleological

models was not apparent in these two cases. Metro and Sunshine both realized that they could not wait for the robust design to be finalized before taking visible action or providing staff development.

Strategies happened simultaneously and in support of each other. For example, taking action helped to build collaborative leadership at Sunshine, while senior administrative support supported collaborative leadership at Metro. Realizing strategies are interconnected and non-linear increased institutions' success in the change process. Detailed examples will illustrate these finding.

At Sunshine, connected to robust design are secondary strategies such as obtaining and incorporating outside perspectives, working within the institutional culture, creating synergy and connections, putting change into a broader context, taking a long-term orientation, and communicating effectively. The bundling of strategies is also present; the design process appeared to be successful because the planning team was careful to incorporate the concerns of outside perspectives, which allowed members of campus to understand the change because the initiative was put into the broader context. The planning team also made a concerted effort to communicate these outside perspectives to people within the institution as part of developing the robust design through the roundtables. In addition, the design was not developed and then communicated. Instead, the roundtables served to shape the development of the plan. Many campuses described how they thought they would seek outside perspectives at the beginning, but then the process would move to being internal. Later, campuses described how they involved individuals outside the institution who provided on-going ideas and new concepts.

At Metro, senior administrative support was linked to developing support structures, providing financial resources, creating incentive structures, and using external factors

constructively. Senior administrative support was always connected to several mechanisms for creating change. Previous literature has described external factors as antecedents, incentives and money as techniques, and new support or governance structures as outcomes in a linear fashion. Instead, external factors, e.g., associations, foundations, came into play throughout the process; creating new structures, e.g. workshops, cross-functional team, were used as strategies and were not simply outcomes of change processes. New infusions of resources and incentives were needed throughout the process, e.g. seed money for pilot projects, larger grants for institution wide reform, annual incentive awards, etc. The diagram in appendix 2 illustrates the interactivity of strategies, providing a more complex guide for campus leaders.

Balance was important to the inter-relationship of strategies. Institutions appeared to create a balance among and between strategies; balance also applied to the nature of the change process itself. Leaders at Sunshine balanced a series of issues. They balanced inside and outside perspectives. They balanced rational, structural strategies with strategies to shape beliefs and alter institutional cultural. They found a balance between long and short term goals and tasks by creating a long-term plan and coupling this with short term action teams. They also created a balance between on-going efforts and new initiatives. Finally, they balanced senior administrative leadership with a collaborative process.

At Metro, leaders struck a balance between a quick pace of change and the need for buy-in and involvement. Administrators spoke about the need to moderate the pace of change as they needed to bring people along, spend time engaging in sensemaking activities and allow time to be their ally. They also balanced inside and outside perspectives. Second, they balanced outside and inside expertise. The change efforts also balanced centrally initiated tasks and activities with those of the autonomous colleges. Rather than let each college work completely independent,

they created structures that were consistent with Metro's culture of autonomy while staying within an institutional framework. Finally, the premise of CAC was based upon a new balance of responsibilities between each college and the institution for general education. No longer was it the task of someone else.

What made Strategies Core: Sensemaking

An important research question that this study addressed is what made strategies core, in other words why were they effective and necessary. What emerged from the data could be labeled either a super-ordinate strategy or a common characteristic across these strategies. Other change studies have identified strategies, but have unable to describe why they were successful because the methodologies employed could not address questions of "how" and "why" phenomenon occur. Staff development, robust design, and collaborative leadership were all effective because they provided institutions opportunities for key participants to create new sense of the direction and priorities of the institution, of their roles in the transforming institution, and of the ways that common notions, such as teaching, service, participation, are evolving and what they now mean. Senior administrative support's key role was creating an environment where sensemaking activities could occur.

These strategies all facilitated organizational sensemaking. Sensemaking is the reciprocal process where people seek information, assign it meaning, and act (Thomas, Clark & Gioia, 1993). It is the collective process of structuring meaningful sense out uncertain and ambiguous organizational situations (March, 1994; Weick, 1995). Sensemaking allows people to craft, understand, and accept new conceptualizations of the organization (Smircich, 1983) and then to act in ways consistent with those new interpretations and perceptions (Gioia, Thomas,

Clark & Chittipeddi, 1996; Weick, 1979). Visible action is important because it demonstrates the outcomes of all the hard work, reinforcing the new sense made during the change process. Sensemaking was the underlying characteristic that made these strategies essential.

There are many examples of the way the core strategies fostered sensemaking. The roundtables and interest groups at each institution provided opportunities for people to make new sense of the proposed change and to begin to understand their individual places in the newly emerging realities. Both institutions capitalized on faculty and staff development for helping individuals to personalize the change and think about it in relation to their jobs, responsibilities, and identities. Sunshine did this through Leadership Sunshine and Metro through its interest groups and sponsored workshops. Both institutions brought external consultants and speakers to campus and developed workshops and symposiums that provided opportunities to develop a collective understanding about the change agenda and process.

Sensemaking occurred at multiple levels; these campuses provided opportunities for individual (staff development & workshops), group (dialogues and symposium) and campus-wide sensemaking (retreats and town meetings). Part of meaning making at Sunshine was to confront the negative relationships on campus. Realizing that some faculty distrusted the change process and the administrators, and thought there was a hidden agenda, the leadership team carefully engaged those critics and allowed them to air their concerns in public forums. Every form of data collected—the institutional reports, document analysis, interviews, and site visits—reinforced the new sense through data. It also illustrates the centrality of sensemaking as the key to successfully creating change.

This finding reflects Bolman and Deal's (1991) reframing within organizations and Chaffee's (1991) "interpretive strategy," as well as several others who note the importance of

interpretation in institutional processes (for example Bartunek, 1984; Gioia, Thomas, Clark & Chittipeddi, 1996). Bolman and Deal describe a function of leaders as constructing explanations and meanings through adopted and interpreting actions through a variety of frames. For example, helping organizational participants understand needed changes through the use of stories or metaphors. Leaders are encouraged to frame issues in different ways so that organizational participants begin to understand the direction that the institution is heading. Sensemaking is broader than Bolman and Deal's concept since the reframing process is dependent on the leader; whereas sensemaking occurs through many processes and different individuals. It is also the socially constructing reality (Weick, 1995) not simply reframing elements that are knowable. Within interpretive strategy, planning and decision-making processes were found to be successful in higher education if they allowed for meaning construction. Interpretive strategy was linked to developing orienting metaphors for guiding attitudes of organizational participants. Symbols, norms, and interaction among individuals are critical for the successful development of strategy.

CONCLUSIONS AND IMPLICATIONS

This study of successful institutional transformation provides valuable insights to academic leaders who seek to bring about change themselves. The key findings include: 1) five core strategies for transformational change and the characteristic that makes them the essential—sensemaking; 2) the inter-relationship among core and secondary strategies and the non-linear process of change; 3) the need for balance among strategies; 4) the importance of social cognition models for future studies of transformational change; and 5) the efficacy of combining multiple conceptual models. Since this is one of the few studies in higher education

to examine comprehensive or transformational change, it was able to identify strategies important to a type of change more institutions most likely will be undertaking.

This study suggests that large-scale institutional change is about meaning construction, or more exactly in times of change, reconstruction, a concept known as organizational sensemaking (Gioia & Chittipeddi, 1991; Weick, 1995). Those institutions that made the most progress toward their change initiative had processes that allowed campus members to engage in sensemaking. The importance of sensemaking reinforces the findings of studies related to other organizational processes in which interpretive strategy or reframing institutional events is seen as most effective within the higher education environment (Birnbaum, 1991; Bolman & Deal, 1991; Chaffee, 1991). Various scholars, including Senge (1992) and Weick (1995), have suggested the importance of sensemaking and adaptive learning within organizations, but they have not explored this concept in relation to transformational change. Readers have been left on their own to determine how these concepts become operationalized in the change process. Extending their work, we believe this study provides new detail for assisting campuses in developing sensemaking through staff development or reading groups that help to develop robust designs or forums and roundtables that facilitate collaborative leadership, etc.

Understanding that a link exists between sensemaking and the core strategies helps institutional change agents more consciously implement strategies to effect transformation. Change agents can craft strategies that provide ample time to explore, discuss, and create new interpretations that will shape new activities and behaviors. Knowing that change strategies foster sensemaking, leaders can establish mechanisms to determine whether people are successfully making sense and finding new meaning.

Since most studies of change have focused on a particular strategy or condition, they have not explored the inter-relationship of strategies. Most institutions envision change as linear; teleological models reinforce this notion and present change as a series of sequenced, planned events. An important turning point for institutions in this study was when they moved from viewing change as a linear process to one that was inter-connected and occurring simultaneously rather than in stages or sequences. The concept of balance, in particular, needs more study since this appears to be strongly related to success in the execution of strategies.

Because sensemaking appears to be important in transformational change, future research needs to compare key strategies for affecting smaller, more constrained changes, innovation and evolutionary adjustments (tinkering) with those of effecting transformational change, to identify what role sensemaking plays, if any. Other concepts within of social cognition tradition might also be important for exploring institutional change processes, for example, generative learning. Generative learning is on-going or constant learning, which is seen as critical to keeping organizations successful and for creating an environment where change occurs more easily (Senge, 1992). Although several writers have hypothesized the importance of generative learning to the change process, empirical data is needed (Curry, 1992). Future transformation research within the social cognition tradition could examine organizational identity and habits and how they might prevent change.

The results of this study also reinforce the importance of examining change through multiple theoretical lenses. Teleological theory proved useful for identifying change strategies. Moreover, the assumption that leaders can help to create change and the importance of internal processes appears to be reflected in these cases (also part of teleological theory). Yet, this study reinforces the importance of biological and social cognition models of change for future studies

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of higher education change, breaking away from the traditional teleological lens or at least suggesting adopting multiple frameworks that combine them. External factors and outside perspectives did emerge as secondary strategies that should be incorporated into the change process; these findings reflect assumptions of biological theories in which the environment is assumed to be critical in determining how change occurs. Furthermore, the inter-relatedness of strategies also reflects a kind of organic interactivity common in descriptions of change within biological theories and the notion of balance is similar to homeostasis.[4] Also, the social cognition model provided key insights about the change process in higher education. Sensemaking and developing new cognitive maps was shown to be critical to transformational change; this is an assumption of social cognition theory. Social cognitive theory has recently been touted for its sophistication in illustrating complexity, in showing the ambiguity, struggle, and individuality of the change process (Collins, 1998). By combining what we have grown to learn from teleological and biological models over the last thirty years, with the new knowledge we are developing about change from social cognition, leaders will be better armed to address the organizational challenges of the future.[5]

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[4] Biological theories focus on change as a slow stream of mutations, gradually shaped by environmental influences as organizations are self-producing and self-organizing (Morgan, 1986). Key concepts include systems, openness, and homeostasis (Sporn, 1999). Openness refers to the relationship between the environment and internal transformation and tends to see change as highly dependent on the external environment. The concept of homeostasis refers to the self-regulation and ability to maintain a steady state by constantly seeking equilibrium between the system and environment (Sporn, 1999).

[5] Biological theories and teleological theories have been around the longest amount of time and have the most empirical support and testing (Levy & Merry, 1986).

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Appendix 1
Definition of Core and Sub Strategies

The following strategies were identified through the six case studies. Those noted with an asterisk were common trends in the literature. Those unmarked emerged as important when reviewing the data from the six institutions.

Supportive Senior Administrators/Leaders*
Individuals in positional leadership provide support in terms of value statements, resources, or new administrative structures.

Collaborative/Shared Leadership Collaborative/Shared Leadership*
The positional and non-positional individuals throughout the campus are involved in the change initiative from conception to implementation.

Persuasive, Effective Communication*
Positional and non-positional leaders provide written and oral reports or concept papers or newsletters outlining the initiative, implementation. Can be one way or two way communication.

Supportive Structures *
Activities and structures that support the change efforts and might include hiring a person to oversee the effort, supplying a center, or a program with money or personnel. Might also include developing policies or procedures to facilitate the change initiative

Incentives*
Change in the reward and promotion structure. Also, sometimes particular money or other types of rewards or recognitions for staff or faculty development or other activities where the individual or department using money specifically to support personnel change.

Robust design*
Taken from the work of Eccles and Nohria (1992). Leaders develop a "desirable" and flexible picture of the future that is clear and understandable and includes set goals and objectives related to the implementation of that picture. The picture of the future and the means to get there are flexible and do not foreclose possible opportunities. This concept originally included vision, but was redefined based on the data from the study.

Long-term orientation*
Steps in the change process that are noticeable. Activities must be visible and promoted so that individuals can see that the change is still important and is continuing. An important strategy for building momentum within the institution.

Connections and synergy
Different initiatives emerge at the grassroots and top down levels. Taking advantage of local and decentralized change efforts and bringing them together helps to keep and build momentum.

Additionally building linkages with initiatives outside the institution. Using external events and forces to assist internal efforts.

Working within and challenging the culture
Leaders understand the culture through some formal or inform assessment or evaluation and take this into account when they make decisions, develop the vision, and identify strategies. An understanding of the culture is also used to identify the current beliefs or activities to be challenged.

Outside perspectives
Bringing in outside reading, consultants, speakers, etc. or going to conference or institutes and bringing the ideas back to the campus.

External Factors
Leaders are able to use constructively the factors outside the institution such as legislative action, economic opportunities or downturns, foundation involvement, etc. These factors may play a range of roles including: provide legitimacy, provide confirmation, and giving money and other resource support.

Staff and faculty development opportunities
A set programmatic effort to offer opportunities for individuals to learn certain skills or knowledge related to issues associated with the change effort.

Take visible actions
Steps in the change process that are noticeable. Activities must be visible and promoted so that individuals can see that the change is still important and is continuing. An important strategy for building momentum within the institution.

Opportunities to influence results
The vision or plan are fluid and allow for feedback from campus participants throughout the process, even after items are final and being enacted. Feedback loops are always open.

Invited participation
Formal processes are established for inviting participation including notices, invitations, requests for input, focus groups, etc.

Moderated momentum
The fluid plan designates way to manage the flow of change initiatives, control the pace by which decisions get made, plans become unveiled and implemented,

"Setting" expectations - holding people accountable to new
Establishing expectations about the effect of the change for individuals related to the change initiative established. They can take the form of a code, guidelines, policies, or statement to the community or be informal spoken norms of behavior or thinking.

Changes in governance and administrative processes

The change initiative becomes part of the day to day business of departmental, school, and division meetings and functional processes such as business affairs, student affairs, and facilities. Each individual sees how the change impacts their day-to-day work.

New ways old groups relate

The restructuring of the ways in which relationships among individuals and groups of individuals in light of the change. Avenues are set up for building trust and for expressing fears or feelings related to past relationships. Processes are also put in place for establishing new relationships.

Putting local change in a broad context of change

An understanding of how the change initiate is part of larger changes in the higher education community; it assists in providing legitimacy, buy-in, and makes the issue less personal.